

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/KR2004/002174

**A. CLASSIFICATION OF SUBJECT MATTER****IPC7 B01J 29/04**

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

B01J, C07C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean Patents and applications for inventions since 1975

Korean Utility models and applications for Utility models since 1975

Japanese Utility models and applications for Utility models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKIPASS

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 57-007432 A (Nippon gosei arukoole K. K.) 14 January 1982 see the whole document	1 - 6
Y	JP 61-017528 A (Mitsubishi Gas Chemical Co., Inc.) 25 January 1986 see the whole document	1 - 6
A	US 4,590,176 A (Shell Oil Co.) 20 May 1986 see the whole document	1 - 17
A	KR 2000-0002477 A (Korea Institute of Science & Technology) 15 January 2000 see the whole document	1 - 17

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

Date of the actual completion of the international search

09 DECEMBER 2004 (09.12.2004)

Date of mailing of the international search report

**14 DECEMBER 2004 (14.12.2004)**

Name and mailing address of the ISA/KR



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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

PCT/KR2004/002174

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 57-007432 A	14.01.1982	none	
JP 61-017528 A	25.01.1986	none	
US 4,590,176 A	20.05.1986	JP 60261540 A2	24.12.1985
		AU 4328185 A1	12.12.1985
		EP 164156 A1	11.12.1985
		NZ 212290-A	27.11.1987
		ZA 8504203 A	26.02.1986
		AU 571976 B2	28.04.1988
		CA 1248512A1	10.01.1989
KR 2000-0002477 A	15.01.2000	none	